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ABSTRACT

Summarized in this descriptive brochure are the establishment and current development of the environmental education program in the U. S. Office of Education. An account of the initial planning and financial support systems forms the introduction followed by major emphasis on representative projects for fiscal year 1971. Examples include multidisciplinary studies in the formal school system, informal education projects, museums and libraries, state planning organizations, and diverse action groups. The appendix outlines how 1971 grants were made, charts the three-phase proposal selection process, and draws tables and a map for distribution of proposals submitted and grants awarded. (BL)

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# THE NEW ENVIRONMENTAL EDUCATION PROGRAM

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# THE NEW ENVIRONMENTAL EDUCATION PROGRAM

## OF THE U.S. OFFICE OF EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Elliot L. Richardson, Secretary

Office of Education
S. P. Marland, Jr., Commissioner of Education

Office of Environmental Education
Robert Gilkey, Director

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# FOREWORD

The quality of our environment has become a matter of serious national concern. It is clear that any effort to deal effectively with this mounting crisis must be deeply rooted in the educational process and through the educational system into the consciousness of every person. Environmental education is truly the education that cannot wait.

In full realization of the need for action, the Office of Education is working closely with other Federal agencies as well as with State and local governments and private, independent institutions, to effect basic and lasting change in our attitudes towards and perceptions of the world in which we live. Our role is education; our commitment is to a healthy environment.

Under the authority of the Environmental Education Act of 1970 the Office of Environmental Education is supporting a wide variety of promising projects and activities. I hope that through them the many people who depend on the educational system for vital knowledge, insights, and skills will become aware in basic ways of the gravity of the situation and of their role in helping improve the quality of our Earth.

S. P. Marland, Jr.
*U.S. Commissioner of Education*

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# I. INTRODUCTION

The environmental education program in the U.S. Office of Education is a response to the growing concern over the crisis which threatens our survival. Overpopulation, mismanagement of natural resources, and pollution of the air and the water have seriously degraded the quality of life. Continued and accelerating urbanization has packed 70 percent of America's people into 2 percent of its land. We have reached the point where our attitudes and behavior must reflect a clear understanding of man's relationships to the environment and, indeed, of the interrelationships of all living things. The survival of man depends upon it.

The Environmental Education Act of 1970 (Public Law 91-516) responds to this challenge. The act calls environmental education ". . . the educational process dealing with man's relationship with his natural and manmade surroundings, and including the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment."

In the summer of 1969, the Institute of International Studies in the Office of Education encouraged 18 interns to set up a student environmental task force. They organized a seminar, surveyed existing Federal programs, produced a film, and created environmental displays. Most of the young people returned to their schools but those who remained helped form an Office of Education *Ad Hoc Task Force on Environmental Activities*.

From the fall of 1969 through the summer of 1971, 70 student assistants, interns, and volunteers provided enthusiastic assistance in developing the environmental education program. One of their most valuable contributions was helping to implement an innovative grant review process (described in the pendix) for the nearly 2,000 proposals submitted by indi uals and groups all over the country during the spring of 19

Approximately $1.7 million was authorized by Congress for fiscal year 1971 grants under the Environmental Education The first grants were awarded to 74 projects in 31 States. projects permit the local development of new and dynamic proaches to environmental education, the identification of cific needs, and the sharing of ideas, experience, and kn edge necessary to bring about essential changes in traditi education systems.

These initial grants assist educational programs which port community problem solving, environmental improver and protection, and ecological awareness. Some went to c munity groups; others, to school systems and colleges. Am the 74 grants were the first made available to nonformal cational programs, including those run by ecology cen museums, and libraries. In the future a large portion of money appropriated under the act will be used to support ority projects which cannot be funded under other exis programs.

In fiscal year 1971, an effort was made—in addition to d budget authority—to initiate a "synergistic approach" to vironmental education by redirecting funds available u other legislative authorities to environmental projects. Th seven projects were funded under the authorities of the mentary and Secondary Education Act (ESEA); the Educa Professions Development Act (EPDA); the Higher Educa Act; the Cooperative Research Act; and Public Law 83 (educational activities overseas).

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Approximately $1.7 million was authorized by Congress for the fiscal year 1971 grants under the Environmental Education Act. The first grants were awarded to 74 projects in 31 States. The projects permit the local development of new and dynamic approaches to environmental education, the identification of specific needs, and the sharing of ideas, experience, and knowledge necessary to bring about essential changes in traditional education systems.

These initial grants assist educational programs which support community problem solving, environmental improvement and protection, and ecological awareness. Some went to community groups; others, to school systems and colleges. Among the 74 grants were the first made available to nonformal educational programs, including those run by ecology centers, museums, and libraries. In the future a large portion of the money appropriated under the act will be used to support priority projects which cannot be funded under other existing programs.

In fiscal year 1971, an effort was made—in addition to direct budget authority—to initiate a "synergistic approach" to environmental education by redirecting funds available under other legislative authorities to environmental projects. Thirty-seven projects were funded under the authorities of the Elementary and Secondary Education Act (ESEA); the Education Professions Development Act (EPDA); the Higher Education Act; the Cooperative Research Act; and Public Law 83-480 (educational activities overseas).

Some environmentalists would have the environmental education program support an expanded version of traditional conservation education. Others would build on the tradition of out-

door education. Some scientists see it as a form of applied science education; social scientists would direct it toward the study of man-made environments. Effective environmental education must combine all of these elements and serve as a vehicle for bringing about *innovation and reform in our educational systems.* Such reform must change not only what is taught but also how it is taught. Environmental education must emphasize the use of the environment in the education process itself and carry on throughout an individual's lifetime.

Environmental education then, deals with all forms and levels of life, their interrelationships, and our perceptions of them. This synergistic or cooperative action approach, the essence of environmental education, is concerned with what is meaningful and relevant to our times and our existence.

By pooling and redirecting available resources the aim is to create, in President Nixon's words, "new knowledge, new perceptions, new attitudes . . . a basic reform in the way our society looks at problems and makes decisions." With this approach environmental problems can be defined more clearly—and, hopefully, resolved.

# II. REPRESENTATIVE PROJECTS-FISCAL YEAR 1971

Earth Days 1970 and 1971 dramatized on a national scale what had become evident at local levels—that young people were concerned with the degradation of the environment and were trying to make the Nation aware of the impending environmental crisis.

## Broad Appeal to Diverse Groups

An example of the many student-initiated proposals for support by the Office of Education is one at *Beloit (Wisconsin) College*—an environmental education project-on-wheels. In 1970, an *EnvironVan* was designed and built by students themselves and during the academic year toured some 78 secondary schools in the Mississippi River Basin with exhibits, lectures, and field trips geared to the particular locality visited. Community concern was stimulated by talks and demonstrations to area civic groups. The principal goal of the *EnvironVan,* according to the proposal, is "to motivate high school students to take more of an interest in their environment and to realize that the future of their environment is, to a large extent, in their hands."

With the help of $41,000 in Federal funds and four additional *EnvironVans*, the program hopes to expand its operations to reach over 800 schools in five States. To quote the proposal, "We have found that . . . a student-to-student relationship almost immediately breaks down more traditional student-to-teacher barriers." Results have so far been encouraging. Checks made at several secondary schools reached by the *EnvironVan* last year showed that more than half of them had initiated, after the visit, an environmentally related course project on their own.

One of the goals of the program was to encourage high sch students to think of science, particularly the environmen sciences, as a focus for their postsecondary education. W meaning faculty members frequently choose only their b students to be exposed to the program, but many of the m receptive young people were ordinary achievers—capable unmotivated—and until then, without direction and edu tional goals. There is evidence that the Beloit program m have helped many of these young people select a course their future.

Students are not the only ones involved. Too often in discussi of ecology it is charged that minorities can have no lasting terest in birds, trees, and clean air when they daily face r roaches, unemployment, dangerous drugs, and substand housing. But these problems, too, are part of the ecologi balance and urban schools must develop environmental cur ulums which will be meaningful to students and their envir ment.

Two proposals directed toward inner city environmental pr lems which were funded by the Office of Education in fis year 1971 are *Blacks United for Progress* in Oakland, Califor and *Frederick Douglass United Community Center* in the A costia area of Washington, D.C.

In Oakland, a $10,000 grant was made to assist a program special environmental orientation aimed at an intensely po lated 10-block, economically depressed area. Demonstra projects have been set up around environmentally oriented cational training and a career development model.

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Students are not the only ones involved. Too often in discussions of ecology it is charged that minorities can have no lasting interest in birds, trees, and clean air when they daily face rats, roaches, unemployment, dangerous drugs, and substandard housing. But these problems, too, are part of the ecological balance and urban schools must develop environmental curriculums which will be meaningful to students and their environment.

Two proposals directed toward inner city environmental problems which were funded by the Office of Education in fiscal year 1971 are *Blacks United for Progress* in Oakland, California and *Frederick Douglass United Community Center* in the Anacostia area of Washington, D.C.

In Oakland, a $10,000 grant was made to assist a program of special environmental orientation aimed at an intensely populated 10-block, economically depressed area. Demonstration projects have been set up around environmentally oriented vocational training and a career development model.

Emphasis is being placed on areas which have clear meaning to the people involved. The training will concentrate on home im-

provement, neighborhood landscape, and maintenance techniques and will involve the unskilled or unemployed.

The Oakland group has already had considerable experience in working to keep potential dropouts in school by designing programs to make learning more meaningful. In the same vein a number of trained young people will work within the neighborhoods to determine how to improve and upgrade the area. Sharing a common interest, working toward a common goal, and meeting a common and felt need will bring community and youth together. It may also serve to involve more closely the school, its faculty, students, and curriculum in the life of the community.

Many have found that the best way to reach the young is to encourage them to take an active part in a project. In Anacostia's community center a cross section of students from 12 different schools in this black, low-income, urban community are working to coordinate an educational program to improve the environment in their area. The students, sixth graders through college undergraduates, have defined their environment as the social and physical aspects of their surroundings.

They are now working to identify problems, define solutions and goals, and organize into learning groups. Their efforts are also directed at changing the curriculum in their schools to make it more meaningful to them in meeting what they see as their special needs.

In addition to a $55,000 environmental education grant, these activities are receiving support from the city government and other institutions which have pledged to make resources and personnel available to the group.

Environmental career information and training is another aspect of the program which has long-range value to the community. Student aides will be employed and trained and their experiences will qualify them to direct seminars, conduct workshops





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## Multidisciplinary Studies in the Formal School System

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Another program with active community involvement geared to meet the needs of a minority group is the *San Benito County Consumer's Corporation* in Hollister, California. This environmental education dissemination program relates to the environmental needs of the Mexican-American farmers in the area.

Problems which particularly affect the lives of the 11,000 to 16,000 resident and migrant Mexican-Americans range from unsanitary health conditions in the farm labor camps to the lack of satisfactory family planning advice.

To begin to deal with these problems, the program will publish a bilingual newsletter—suggesting solutions and informing workers of their legal rights, obligations, and the availability of legal and health services. Studies and experiments with different forms of information development and dissemination will be carried out to determine the best way to reach the community. The field, the camps, and the canneries will serve as onsite laboratories.

## Multidisciplinary Studies in the Formal School System

If we are to work toward public environmental awareness and ecological balance it is essential that students have an opportunity to develop environmental values at the earliest levels of education and fortify these throughout secondary and higher education and beyond the formal educational years.

In introducing *environmental/ecological concepts* into the elementary system, a number of different approaches can be used. One way is to integrate these basic principles into exist-

ing courses such as social studies, science, or health. Another approach, chosen by *East Syracuse-Minoa School District* in New York, is to develop multidisciplinary courses based on specific environmental problems.

East Syracuse-Minoa is a diverse and growing middle-class suburb of Syracuse which is comprised of heavy industry, three major housing developments, proliferating interstate highway systems, open farm land, and one existing and one proposed State park.

With the help of a $25,000 environmental education grant, the district will work toward developing a broad, coordinated environmental education section of the elementary and middle school curriculum. Three complete curriculum units for all grades will be developed with the project running throughout the summer as well as the regular school year. Units will range from early orientation and recognition of ecology in the lower grades to an investigative approach to political and socioeconomic aspects of specific environmental issues in the upper grades. Individual and team research projects will be encouraged throughout.

*The Atlanta, Georgia Public Schools* devised a curriculum development program which employs procedures to "challenge and interest pupils in curriculum development and to overcome weaknesses of the traditional school."

The program involves 100 10th- and 11th-grade students each quarter from two Atlanta high schools. They will work under contract with teachers and will individually study environmental problems of particular local interest. Interviews with community leaders and other information-gathering procedures will provide a basis for the development of a complete environmental curriculum for elementary and high schools.

During the time they are working on their projects, the students will be exempt from usual school responsibilities. Credits



will be given in science, social studies, communications, mathematics.

In *Corvallis, Oregon,* one school will be used as a model to structure the district's secondary curriculum, linking sev disciplines with the environment as the central issue. Diffe academic approaches to a common problem will be develo and an operating manual describing them will be publishe the end of the year.

The plan envisions a school in which environmental educa is an integral part of the entire curriculum. Instructors f different areas of expertise will teach in each other's cla and students will prepare assignments which will relate range of courses. Study will take place outside the classr in the community to give students a broad exposure and able them to work toward constructive goals.

At the higher education level some college and university partments are reorganizing themselves into environme studies programs which cut across disciplinary lines an volve faculty from a broad range of academic fields. A m disciplinary approach to teaching and research combines expertise of the social sciences, humanities, physical and logical sciences, and engineering. The environment prov the principle around which the program is organized.

San Jose (California) State College is located in a county w suffers severely from the effects of pollution, mainly unc air and urban blight. In addition, the economy has been sh by acute unemployment in aerospace-related industries. environmental project faces the sensitive question of com nity priorities at a time when the area cries out for econ recovery and increased employment. The *Conceptual Struc of Human Ecology* as described in the proposal recognizes "In order to build a survival society we must establish physical parameters (characteristic elements or constant tors) of survival, decide on the quality of life we wish to pu

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In *Corvallis, Oregon,* one school will be used as a model to restructure the district's secondary curriculum, linking several disciplines with the environment as the central issue. Different academic approaches to a common problem will be developed and an operating manual describing them will be published at the end of the year.

The plan envisions a school in which environmental education is an integral part of the entire curriculum. Instructors from different areas of expertise will teach in each other's classes and students will prepare assignments which will relate to a range of courses. Study will take place outside the classroom in the community to give students a broad exposure and enable them to work toward constructive goals.

At the higher education level some college and university departments are reorganizing themselves into environmental studies programs which cut across disciplinary lines and involve faculty from a broad range of academic fields. A multidisciplinary approach to teaching and research combines the expertise of the social sciences, humanities, physical and biological sciences, and engineering. The environment provides the principle around which the program is organized.

San Jose (California) State College is located in a county which suffers severely from the effects of pollution, mainly unclean air and urban blight. In addition, the economy has been shaken by acute unemployment in aerospace-related industries. The environmental project faces the sensitive question of community priorities at a time when the area cries out for economic recovery and increased employment. The *Conceptual Structure of Human Ecology* as described in the proposal recognizes that, "In order to build a survival society we must establish the physical parameters (characteristic elements or constant factors) of survival, decide on the quality of life we wish to pursue,

and then evolve the social relationships and economic structures necessary to realize and maintain that quality of life."

Under its humanities department, the college will adopt a multidisciplinary approach to these problems and work toward models for solution. The curriculum will emerge from a joint student-faculty study of cultural and social problems involved in building a "survival society" and attempt to find ecologically sound answers for the problems.

## Informal Education Projects

One of the hopeful signs of the 1970's is the increased numbers of citizens' environmental groups. They evolve from the needs and problems of a particular community but are characterized by a common determination that *the 1970's must be the decade when America pays up its debt to the past by reclaiming the purity of its air, its water, and all living environments.*

Typical of these groups are the *ENACT Ecology Center* in Ann Arbor, Michigan, and the *Ecology Action Education Center's Training Institute,* Modesto, California. Both of these proposals were funded under the small grant category (under $10,000). ENACT's program is organized around a chemical-free garden, which is designed to demonstrate alternatives to present methods of lawn and garden care. Emphasis will be placed on the physical, chemical, and biological changes in the soil which is managed with organic techniques. The educational program will demonstrate ecological principles, such as diversity of species, through a stabilized yard community, nutrient recycling in organic matter, soil moisture control through plant spacing and mulching, pest control through natural predators, and soil structure improvement.

The ecology institute was established in 1968 to "study and develop the methods for the creation of a balanced relationship between the needs and aspirations of society
tions of man's environment." Since then, nati
focused on innovative projects, publications,
ated by the Modesto group. Now, with a small
tion grant of $8,900, the institute will bring
sentatives of environmentally concerned pu
organizations throughout California's Central V
long intensive training symposium at Modesto
The symposium will stress the interdependen
lems and attempt to integrate the efforts
agencies toward their solutions.

A major problem we face is disposing of the
tons of solid waste our affluent, highly indus
produces each year. Some innovative approa
with the esthetic, health, economic, and re
have been tried. For example, two recreati
*Mount Trashmore* in Norfolk, Virginia, and *M*
Wisconsin, have been created almost entirely f
people are beginning to look at solid wastes
with considerable cash value. One program,
*Cash,* is based on the profitability of recyclin
suggested by the *Environmental Action Coalit*
a group of citizens concerned with the deter
environment. According to its directors, "The
a community-based recycling, collection, and
is necessary to solve two interrelated proble
mental crisis and an educational need." Part
bring trash to some 20 *Trash Is Cash* center
and social feasibility of community recyclin
solid wastes has already been demonstrated
The eventual goal of the organization is to
agencies or private industry take over the proj
scale. Under the grant from the Office of Edu
cational section of the project, *Learning Thro*
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between the needs and aspirations of society and the limitations of man's environment." Since then, national interest has focused on innovative projects, publications, and exhibits created by the Modesto group. Now, with a small Office of Education grant of $8,900, the institute will bring together representatives of environmentally concerned public and private organizations throughout California's Central Valley for a week-long intensive training symposium at Modesto Junior College. The symposium will stress the interdependence of the problems and attempt to integrate the efforts of all relevant agencies toward their solutions.

A major problem we face is disposing of the 150 millions of tons of solid waste our affluent, highly industrialized society produces each year. Some innovative approaches to dealing with the esthetic, health, economic, and resource problems have been tried. For example, two recreational mountains, *Mount Trashmore* in Norfolk, Virginia, and *Mount Oshkosh* in Wisconsin, have been created almost entirely from trash. Some people are beginning to look at solid wastes as "urban ore" with considerable cash value. One program, called *Trash Is Cash,* is based on the profitability of recycling. It was initially suggested by the *Environmental Action Coalition of New York,* a group of citizens concerned with the deterioration of their environment. According to its directors, "The development of a community-based recycling, collection, and learning center is necessary to solve two interrelated problems: an environmental crisis and an educational need." Participating groups bring trash to some 20 *Trash Is Cash* centers. The economic and social feasibility of community recycling of household solid wastes has already been demonstrated by the coalition. The eventual goal of the organization is to have municipal agencies or private industry take over the project on a massive scale. Under the grant from the Office of Education, the educational section of the project, *Learning Through Action,* will involve students, teachers, and community members in learning experiences based on the recycling program, providing un-

derstanding of many of the complex concepts involved with the use of natural resources.

With the help of a $10,000 grant from the Office of Education, the *Luzerne-Lackawanna (Pennsylvania) Citizens' Council for Clean Air* will conduct an Environmental-Crisis Series in two Pennsylvania counties in conjunction with local service groups. The series will be comprised of a five-part program of intensive workshops to deal with both theoretical and tangible school and community concerns. The workshop idea came about in response to frequent requests from students, teachers, and school administrators for information and curricular suggestions on a broad range of environmental issues.

## Museums and Libraries

An interesting commentary on the nature of contemporary environmental concerns is that few of us have ever really received formal education in ecology or environmental systems. Instead, the nonformal educators—garden clubs, conservation groups, voluntary organizations, nature societies, and local museums or libraries—have contributed most to the background we do have. At least as important, though, is that they have made us increasingly aware of our disappearing natural heritage and the need for action to save it. In order to continue to receive the benefits of the contributions these groups have been making for many years and to encourage their continuing efforts, the Environmental Education Act also included authority to make grants to private organizations, specifically including museums and libraries.

One particularly creative program was designed by the *Children's Museum of Boston, Massachusetts,* working with the city school system, MIT's Environmental Studies Laboratory, and the Massachusetts Bay Transportation Authority. This *Open City Project* brings together children from two middle schools—one in the inner city, the other suburban—with city



planners, transportation administrators, educators, and
ents. Through action projects carried out within the comr
ties, the children will examine first-hand their local transp
tion habits, needs, and values. Along with the project staf
the transit authority they will begin work to find new wa
meet these demands. The transit authority will attempt d
the following summer to try out some of the ideas devel
by the children. Originally, the idea was developed bec
"for most youngsters, traveling through the city is an
quent, confusing threatening experience. There is a ne
facilitate patterns of urban travel for children which will
them to explore the educative potential of the city and
will encourage them to adopt effective, environmentally s
travel habits."

*The St. Louis (Missouri) Public Library* was given a $5
grant by the Office of Education to establish a netwo
library-based ecology centers throughout the city and i
county. The project called for transforming libraries—si
tially—into active centers for community education as w
for individual reader use. Each center will gear itself t
environmental issues of greatest concern to the area it s
Services and resources include seminars, environmental
speakers for citizens and student groups, newsletters, inf
tion switchboards, and coordination of community-initiate
vironmental education projects.

Environmental education has an effect outside the confi
the formal system of education. Because it involves the
community, it cannot be contained within the brick walls
school.

*In Lockport, Illinois,* the communities no longer plan to
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open year round as late in the day as students and staf
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planners, transportation administrators, educators, and parents. Through action projects carried out within the communities, the children will examine first-hand their local transportation habits, needs, and values. Along with the project staff and the transit authority they will begin work to find new ways to meet these demands. The transit authority will attempt during the following summer to try out some of the ideas developed by the children. Originally, the idea was developed because, "for most youngsters, traveling through the city is an infrequent, confusing threatening experience. There is a need to facilitate patterns of urban travel for children which will allow them to explore the educative potential of the city and which will encourage them to adopt effective, environmentally sound travel habits."

*The St. Louis (Missouri) Public Library* was given a $50,000 grant by the Office of Education to establish a network of library-based ecology centers throughout the city and in the county. The project called for transforming libraries—six initially—into active centers for community education as well as for individual reader use. Each center will gear itself to the environmental issues of greatest concern to the area it serves. Services and resources include seminars, environmental films, speakers for citizens and student groups, newsletters, information switchboards, and coordination of community-initiated environmental education projects.

Environmental education has an effect outside the confines of the formal system of education. Because it involves the total community, it cannot be contained within the brick walls of the school.

*In Lockport, Illinois,* the communities no longer plan to build traditional schools. Instead, they will build learning centers, open year round as late in the day as students and staff care to stay. These centers will serve all ages. Team teaching, open space, individualized instruction, and neighborhood involvement are integral to each center.

About $10,000 in environmental education funds will help Lockport's Elementary School District No. 96 undertake a program for environmental education in these community learning centers. The community planned projects will use 11 acres of school land and 60 acres of forest, train professionals to operate the new school, and coordinate local environmental activities. Throughout the program community cooperation will be stressed.

## State Commitment

Although interest in developing new types of environmental education envisioned by the act is relatively new, programs in outdoor education, conservation, environmental sciences, and nature study have been going on at least since the turn of the century. It has not been unusual in the past to find these various programs at odds with each other competing for scarce resources to support their programs and to get the attention of a small audience.

A cooperative strategy is necessary to utilize effectively the resources of all organizations that could contribute to environmental education efforts. State planning activities have been supported to provide suggested directions for the limited funds and personnel available. These State planning groups are composed of individuals who represent various statewide organizations, such as conservation groups, the State education agency, business, labor, industry, television, and other public and private educational and environmental organizations. Grants were made to these planning groups through one of the member organizations, such as the *Task Force on Conservation Education of the Massachusetts Audubon Society* which received a grant to complete an evaluation of statewide needs for a coordinated environmental education effort and to establish a permanent planning board to assess the priorities of environmental needs within the State.



In Colorado, *the Center for Research and Educa Park,* in association with such organizations a Mountain Center on the Environment and the partment of Education received some $40,000 Education funds to support the evaluation and activities of Colorado's master plan for environ tion. Membership in the planning group include tives from a wide range of major interests includi informal education groups, students, health o the media, industry, and city planners. The grou through a series of public meetings in Denver. special interest committees were developed, fo as education, media, labor, business, industry agencies. Each committee will form its own su thereby bringing additional people into the plan At the same time, several statewide activities, USDA's Soil Conservation Service and Keep Ame will sponsor local planning groups throughout t two-way dissemination systems thus created will Coloradans with an opportunity to participate in process.

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These diverse examples were chosen to illustrate the scope of the environmental education program and to stimulate thought about new approaches to environmental education suited to the needs of different types of communities.

# III. LOOKING TO THE FUTURE

U.S. Commissioner of Education S. P. Marland, Jr. has stressed that environmental education is concerned with every human being and every other form of life upon this planet. It is clear that education is central to any serious attempt to abate pollution and maintain a quality environment. It must provide the understanding of environmental concepts that we shall need to deal with these very basic problems which affect our lives in every way.

In the Spring of 1971, Congress appropriated to the Office of Education for fiscal year 1972, $3.514 million to continue funding environmental education activities. This is only one source of funding. The Office of Education earmarked an additional $11.4 million from approximately 20 other funding authorities for the same purpose. As Commissioner Marland has said,

> *Central to the philosophy of environmental education is the idea of using environmental education funds and authority as a catalyst—a triggering mechanism—for other funding commitments within the Office of Education and in the coordination of resources and facilities of other Federal agencies.*

Contributions of additional millions are expected at State and local levels. Further support to community programs is also coming from corporations, foundations, and local business and industry.

Once this broad base of support is firmly established, it will mean a level of funding sufficient to carry out in the 1970's, a national strategy of environmental education which will lead



to a significant improvement in the quality of all our liv
Some skeptics think this is a fad. But the urgency has beco
so clear that, as one environmentalist said, "If it is a fad
will be the last fad of the 20th century."

Dr. Robert Gilkey, Director, Office of Environmental Educa
in the Office of Education, sees environmental concerns le
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Dr. Robert Gilkey, Director, Office of Environmental Education in the Office of Education, sees environmental concerns leading to the development of new and more comprehensive educational programs with a greater focus on teacher training to implement program goals. He envisions regional institutes for education and training, a professional environmental education association, a center for development of materials for citizen education, and a nationwide network of ecology centers.

# APPENDIX

# HOW 1971 GRANTS WERE MADE

## Criteria for 1971 Proposals

### Eligibility

All public and private nonprofit agencies, institutions, and organizations are eligible to apply for grants under the Environmental Education Act, except as noted in the *Handbook on Preparing Proposals under the Environmental Education Act* which was mailed* in April 1971 to requestors who had written the Office of Education asking for information about funds for environmental education programs.

### Definition

The Environmental Education Act of 1970 (Public Law 91-516) defines environmental education as "the educational process dealing with man's relationship with his natural and manmade surrounding, and including the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment."

### Requirements

All activities supported under the Environmental Education Act must be designed to meet the purposes of the act and fall within the act's definition of environmental education. In addition projects should include provision for self-evaluation, dissemination by the Office of Education of the results of the activity, shared-funding, and possible replicati (except as noted).

1. Self-Evaluation: Projects lasting over 6 less than 12 months must provide for a tion by the project staff and/or their Projects lasting over 12 months will pr evaluations at 6-month intervals and o tion when completed.
2. Dissemination: The descriptions, materi uations of projects must be submitted of Education for possible dissemination.
3. Shared-funding: The exact amount or p the cost to be covered with Federal fun termined by the nature and purpose of but will not exceed 80 percent of the t ceptions to this rule may be projects su tion, curriculum development, and diss
4. Qualifications: The qualifications of the and staff are consistent with the require project plan.
5. Feasibility: The objective of the project i in terms of scope, time, and financial su
6. Replicability: All projects designated " stration" should include a description tions (type of institution, school, organ tion, financial and other resources) und project could be replicated, in whole or the constraints therein. The replicabi demonstrations will be a major criteria fo
7. Student Involvement: Students are inv extent possible, in the development and tion of the project.
8. Use of Volunteers: Project makes use of and other volunteers when such assista able and would enhance the project.

* The early 1971 mailing list plus many additional requestors will be used to distribute the *Handbook* for fiscal year 1972 proposals. If you would like your name or organization added to the mailing list, write: Environmental Education Program, Office of Education, Washington, D.C. 20202.

# APPENDIX

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activity, shared-funding, and possible replication elsewhere (except as noted).

1. Self-Evaluation: Projects lasting over 6 months but less than 12 months must provide for a total evaluation by the project staff and/or their consultants. Projects lasting over 12 months will provide interim evaluations at 6-month intervals and overall evaluation when completed.
2. Dissemination: The descriptions, materials, and evaluations of projects must be submitted to the Office of Education for possible dissemination.
3. Shared-funding: The exact amount or percentage of the cost to be covered with Federal funds will be determined by the nature and purpose of the project, but will not exceed 80 percent of the total cost. Exceptions to this rule may be projects such as evaluation, curriculum development, and dissemination.
4. Qualifications: The qualifications of the organization and staff are consistent with the requirements of the project plan.
5. Feasibility: The objective of the project is practicable in terms of scope, time, and financial support.
6. Replicability: All projects designated "pilot-demonstration" should include a description of the conditions (type of institution, school, organization, location, financial and other resources) under which the project could be replicated, in whole or in part, and the constraints therein. The replicability of pilot-demonstrations will be a major criteria for funding.
7. Student Involvement: Students are involved to the extent possible, in the development and implementation of the project.
8. Use of Volunteers: Project makes use of professional and other volunteers when such assistance is available and would enhance the project.

## Proposal Selection Process

The following graphics explain the selection process wherein almost 2,000 proposals were read and evaluated by two or more experts. Table 1 gives an overview for fiscal year 1971 proposals and lists the categories for grants over $10,000. Table 2 shows the origin of proposals for small and large grants by type of grantee. The map shows the geographic distribution of proposals submitted and grants awarded.

# PROPOSAL SELECTION PROCESS

## PHASE I—PREPARATION

**PROPOSALS LOGGED IN**

- By name, address, phone, amount, arrival date, contact person

**TECHNICALLY APPRAISED**

- for compliance with *Handbook* requirements
- for title and signature pages

**FILED**

- assigned category letters A–N (table I) and file numbers
- copies separated into folders for staff access and review by specialists



## PHASE II—
## PROPOSAL EVALUATION

read clockwise

A. Specialists in n
environmental
from throughou
to evaluate pro
was chosen for
subject matter
structure.

Occupations of Specialist

| Occupation type |
|---|
| Office of Education |
| Government—nonenvironmental |
| Government—environmental |
| Training/education program design sp |
| Urban planning groups |
| Private environmental groups |
| Private foundations |
| Universities |
| Private education |
| Students |

* Readers other than senior Environmental

G. Specialists' sc
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scores. The lis
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for title and signature pages

assigned category letters A–N (table I) and file numbers

copies separated into folders for staff access and review by specialists



## PHASE II—

## PROPOSAL EVALUATION BY SPECIALISTS

read clockwise

A. Specialists in multiple environmental fields came from throughout the U.S.A. to evaluate proposals. Each was chosen for knowledge of subject matter or program structure.

Occupations of Specialists

| Occupation type | Percentage of Readers* |
|---|---|
| Office of Education | 18 |
| Government—nonenvironmental | 8 |
| Government—environmental | 22 |
| Training/education program design specialists | 16 |
| Urban planning groups | 4 |
| Private environmental groups | 7 |
| Private foundations | 3 |
| Universities | 15 |
| Private education | 3 |
| Students | 1 |

*Readers other than senior Environmental Education staff.

G. Specialists' scores were tabulated and a list compiled of proposals with the highest scores. The list totaled 400 proposals.

B. Specialists were given an identifying number to use on evaluation sheets to preserve anonymity.

C. Each specialist read one copy of proposal without seeing another evaluation.

D. On every proposal read, the specialist completed two evaluation sheets with checklists of questions based on criteria given in the *Handbook* for specific proposal category.

E. Each proposal was evaluated at least twice by different specialists.

F. If one specialist gave a high rating to a proposal and one a low rating, a third specialist was asked to evaluate the proposal.



## PHASE III—PROPOSAL EVALUATION BY OE

Each of the 400 proposals rated highest by specialists reviewed by at least three senior staff members

Based on staff review, 150 proposals selected for further consideration

Final staff review selected 90 propos for funding

Further review within OE developed a list of 74 recommended proposals

The list was forwarded to the Commissioner who approved the awards

☆ U.S. GOVERNMENT PRINTING OFFIC

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Each proposal was evaluated
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## PHASE III—PROPOSAL EVALUATION BY OE STAFF

Each of the 400 proposals rated highest by specialists reviewed by at least three senior staff members

Based on staff review, 150 proposals selected for further consideration

Final staff review selected 90 proposals for funding

Further review within OE developed a list of 74 recommended proposals

The list was forwarded to the Commissioner who approved the awards

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971 O—448-002

## TABLE 1—PROPOSALS SUBMITTED AND GRANTS AWARDED

Less than 4 percent of the nearly 2,000 proposals submitted were funded. Small grants of $10,000 or less accounted for 36 of the 74 funded projects. Small grants, authorized by section V of the act, may be awarded "to nonprofit organizations such as citizens groups, volunteer organizations working in the environmental field, and other public and private nonprofit agencies, institutions, and organizations for conducting courses, workshops, seminars, symposiums, institutes, and conferences" designed to demonstrate innovative approaches to environmental education. Small grants were described in general terms in the Handbook. Proposals for large grants were solicited in activity categories coded A–N as specified in the Handbook. Among the proposals submitted for large grants, leading areas were (1) community environmental education projects, (2) environmental education centers, and (3) curriculum development.

| | Number submitted | Percent submitted in categories | Number grants awarded |
|---|---|---|---|
| Total—All Grants | 1,925 | ---------- | 74 |
| Proposals for small grants ($10,000 or less) Total | 1,024 | ---------- | 36 |
| Proposals for large grants (over $10,000) Total | 901 | ---------- | 38 |
| A. Community environmental education projects | 225 | 25 | 11 |
| B. Special evaluation and dissemination activities for State planning groups | 18 | 2 | 5 |
| C. Environmental education centers | 190 | 21 | 6 |
| D. Noneducational personnel development—inservice | 36 | 4 | 1 |
| E. Comprehensive community education models | 18 | 2 | 1 |
| F. Educational personnel training—inservice | 54 | 6 | 1 |
| G. Supplementary materials development | 90 | 10 | 1 |
| H. Evaluation projects | 18 | 2 | 1 |
| I. Dissemination | 63 | 7 | 0 |
| J. Curriculum development | 126 | 14 | 8 |
| K. Workshops for government personnel | 9 | 1 | 1 |
| L. Elementary and secondary education programs | 36 | 4 | 1 |
| M. Noneducational personnel training—preservice | 9 | 1 | 1 |
| N. Educational personnel training—preservice | 9 | 1 | 0 |

## TABLE 2—ORIGIN OF PROPOSALS FOR LARGE AND SMALL GRANTS, BY TYPE OF GRANTEE

| Type of grantee | Large grants (over $10,000) | | | | Small grants ($10,000 or less) | | | |
|---|---|---|---|---|---|---|---|---|
| | Number submitted | Percent of total | Number funded | Amount of grant | Number submitted | Percent of total | Number funded | Amount of grant |
| Universities, 4-year colleges, and community colleges | 351 | 39 | 14 | $363,036 | 379 | 37 | 5 | $37,900 |
| Local and State education agencies | 228 | 25 | 6 | 365,000 | 133 | 13 | 3 | 26,200 |
| Community education programs | 18 | 2 | 2 | 87,000 | 31 | 3 | 4 | 37,750 |
| Private environmental organizations | 54 | 6 | 3 | 99,000 | 82 | 8 | 8 | 71,100 |
| Private educational organizations | 54 | 6 | 6 | 271,400 | 102 | 10 | 2 | 17,487 |
| Other private organizations | 99 | 11 | 2 | 65,000 | 195 | 19 | 8 | 67,660 |
| Public agencies | 45 | 5 | 3 | 103,554 | 72 | 7 | 5 | 36,521 |
| Museums | 28 | 3 | 1 | 19,000 | 20 | 2 | — | — |
| Libraries | 24 | 3 | 1 | 50,000 | 10 | 1 | 1 | 4,869 |
| Total | 901 | ---------- | 38 | 1,422,990 | 1,024 | ---------- | 36 | 299,487 |



For information about fiscal 1972 propos

OFFICE OF ENVIRONMENTAL EDU

Office of Education
Washington, D.C. 20202
Tel. Nos. Area Code 202–962–7807 or

## POSALS SUBMITTED AND GRANTS AWARDED

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| ment personnel | | 9 | 1 | 1 |
| dary education programs | | 36 | 4 | 1 |
| nnel training—preservice | | 9 | 1 | 1 |
| l training—preservice | | 9 | 1 | 0 |

## GIN OF PROPOSALS FOR LARGE AND SMALL GRANTS, TYPE OF GRANTEE

| tee | Large grants (over $10,000) | | | | Small grants ($10,000 or less) | | | |
|---|---|---|---|---|---|---|---|---|
| | Number submitted | Percent of total | Number funded | Amount of grant | Number submitted | Percent of total | Number funded | Amount of grant |
| , and community | | | | | | | | |
| | 351 | 39 | 14 | $363,036 | 379 | 37 | 5 | $37,900 |
| gencies | 228 | 25 | 6 | 365,000 | 133 | 13 | 3 | 26,200 |
| ams | 18 | 2 | 2 | 87,000 | 31 | 3 | 4 | 37,750 |
| izations | 54 | 6 | 3 | 99,000 | 82 | 8 | 8 | 71,100 |
| tions | 54 | 6 | 6 | 271,400 | 102 | 10 | 2 | 17,487 |
| | 99 | 11 | 2 | 65,000 | 195 | 19 | 8 | 67,660 |
| | 45 | 5 | 3 | 103,554 | 72 | 7 | 5 | 36,521 |
| | 28 | 3 | 1 | 19,000 | 20 | 2 | — | — |
| | 24 | 3 | 1 | 50,000 | 10 | 1 | 1 | 4,869 |
| | 901 | ---------- | 38 | 1,422,990 | 1,024 | ---------- | 36 | 299,487 |



For information about fiscal 1972 proposals, write—

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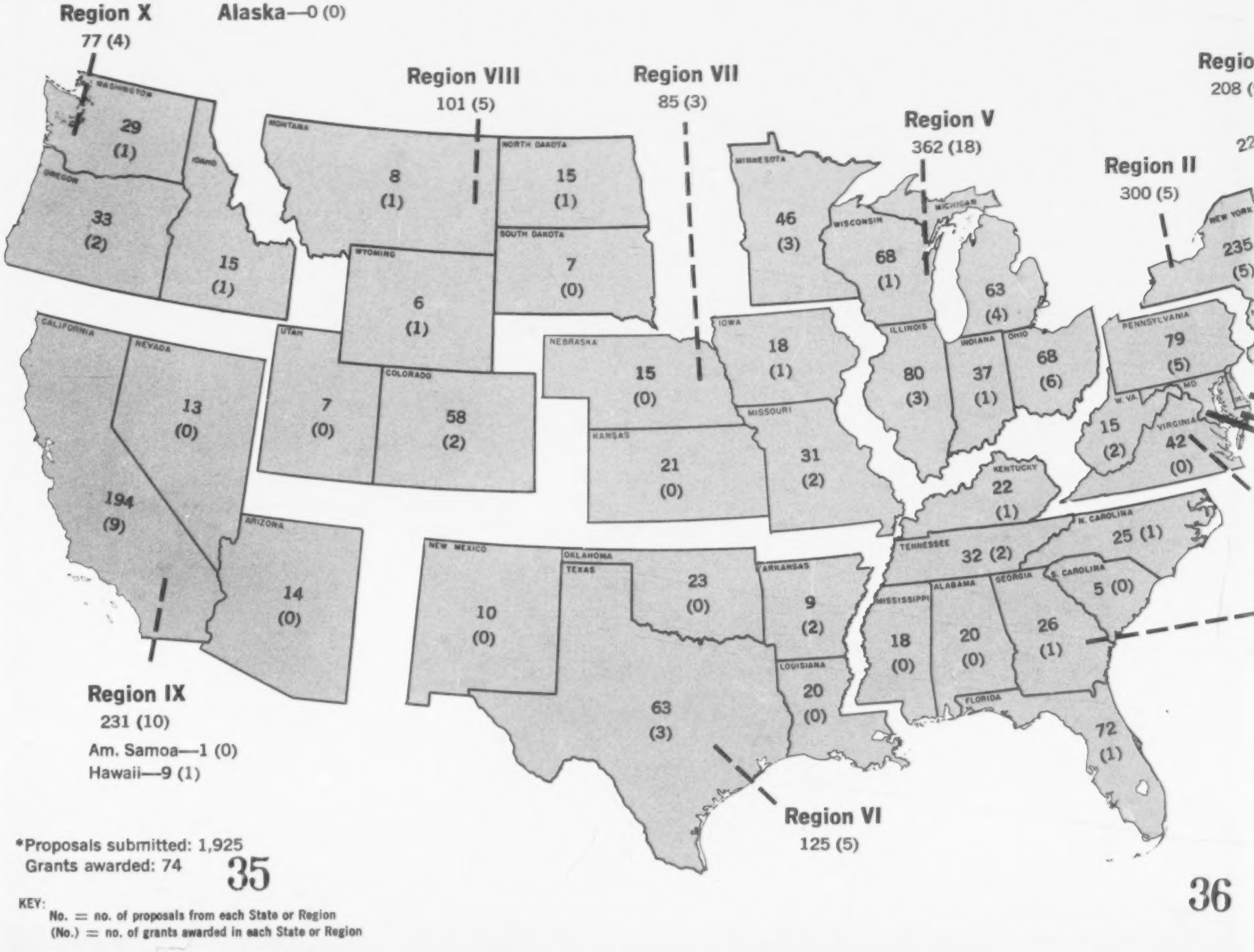


*Proposals submitted: 1,925
Grants awarded: 74

KEY:
No. = no. of proposals from each State or Region
(No.) = no. of grants awarded in each State or Region

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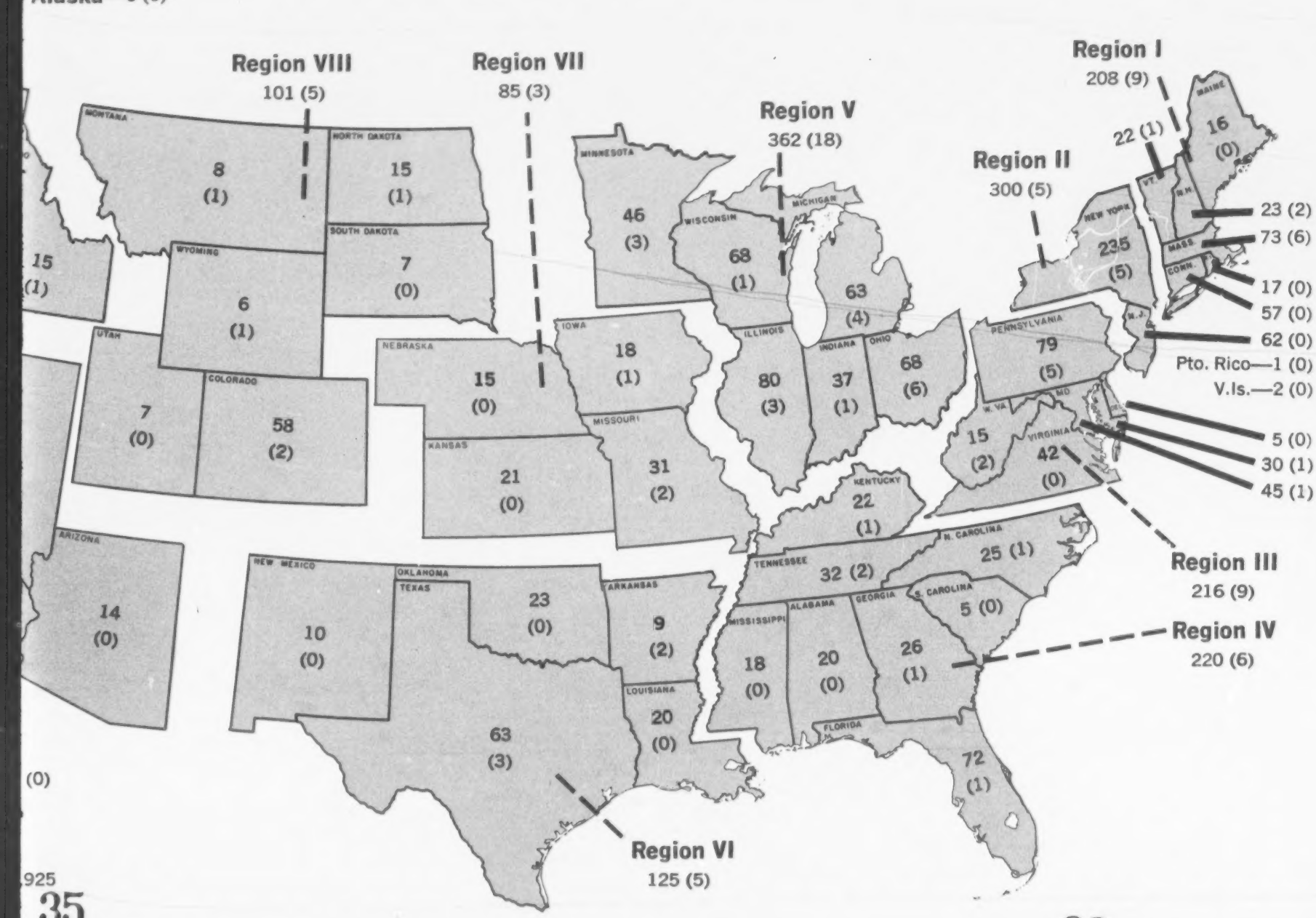


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